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THE KEYSTONE Defender

5 No. 9 STATE COUNCIL OF CIVIL DEFENSE, HARRISBURG, PA. SEPTEMBER, 1956

Observation Of National C. D. Week

PROCLAMATION

WHEREAS, the maintenance of peace and, as an alternative, personal and national survival in the event of enemy attack are of paramount interest to the citizens of Montgomery County, Pennsylvania, and

WHEREAS, the existence of a strong and efficient civil defense is recognized as a means of attaining these goals, and

WHEREAS, the strength of the Nation's civil defense depends upon the state of individual and community disaster preparedness throughout the Nation, and

WHEREAS, President Eisenhower has called upon the Nation to observe the week of September 9-15 as Civil Defense Week as a means of developing an awareness of the need for general participation in civil defense,

NOW THEREFORE, We, J. Walter Hammonds, Warren M. Cornell, Jr., and Forrest J. Henry, Commissioners of Montgomery County, do hereby proclaim the aforementioned week as Civil Defense Week in Montgomery County and urge the residents to participate in the observance of this week.

IN WITNESS WHEREOF we have hereunto set our hand and caused the Seal of the County of Montgomery to be affixed this 4th day of September, 1956 . . .

This was a typical proclamation, designed to call attention to National Civil Defense Week. Many such proclamations appeared throughout the Commonwealth.

Unfortunately, it is too early at this writing to publish a comprehensive report of the week's activities. Early reports indicate that the first such "week" was a great success, however. Many newspapers published the Fed-

erally-distributed "Fallout" mats. Radio stations carried both national and local civil defense programs. In Reading, a preview of the new film "Alert Today, Alive Tomorrow," filmed exclusively in Berks County, was held.

Exercises of all kinds were held in scattered sections of the Commonwealth. Butler County (Jack Campbell, Director) reported as follows:

Asked each civil defense member to enroll another member.

Had Boy Scouts and chain stores delivering literature.

Called a meeting of directors and presented them with problems.

Many organizations held exercises, —calling auxiliary police to handle traffic, testing natural disaster plans, holding communication and rescue drills.

FIRST AID AND HOME NURSING

By ARTHUR B. WELSH, M. D., *Medical Coordinator, Civil Defense, Pennsylvania Department of Health*

THE QUOTATION below following this paragraph is cause for serious reflection on the part of the medical profession of the Commonwealth when assessing the medical civil defense role of our medical profession.

Dr. Alan Gregg of the Rockefeller Foundation, in a speech before the National League for Nursing expressed professional nursing's concern when he said: "Is it conceivable that when military service faces the boys of this country, their sisters—who vote and benefit from all that taxes supply us—will *not* continue to be exempted from their duties comparable to those of

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(Photo courtesy Altoona Mirror)

A typical Pennsylvania Civil Defense Auxiliary Policeman during a test alert. This picture was taken in Altoona, an area which boasts a fine civil defense organization.

MORE "OPERATION ALERT 1956" NEWS

(The following reports were received too late for inclusion in last month's "Operation Alert 1956" report).

TWO EXERCISES were held by the re-organized Dauphin County Civil Defense organization. These were announced by Colonel John B. Warden, Chairman of the County Civil Defense Council, as a mission to assist Philadelphia on the evening of July 20th and an exercise based on assistance to Harrisburg the following afternoon.

A convoy of 55 vehicles, mounted by 220 trained volunteers, was assembled on July 20th, with the theoretical mission of "Aid to Philadelphia." This exercise was held in a downpour of rain but enthusiasm was described as "much better than ever before."

The convoy was headed by Col. Ralph Steele and moved from the Farm Show Building, Harrisburg, to Middletown Air Depot where inspection was held by William Zoll, County Coordinator, then the convoy proceeded to a mass care center at Catherine Laboure Church, Oakleigh, where a mass feeding demonstration was held under direction of Mrs. Isabel Wood, County Welfare Director.

In the convoy were firemen, police, medical and medical supply units, Civil Air Patrol rescue equipment, radio, light rescue teams and construction and earth moving equipment.

Elwood Miller, County Deputy Civil Defense Fire Chief, led the Harrisburg Relief Convoy, which consisted of 24 vehicles and 115 volunteers. This convoy moved from Elizabethville to Berrysburg, where volunteers were fed

in a mass care center at St. John's Church.

Nelson W. Norwood, Carbon County Civil Defense Director, reported the "Operation Alert 1956" as outstanding. An improvised hospital was erected at the Palmerton High School Baseball Field where physicians, nurses, technicians, auxiliaries, ambulance drivers, nurses aids, fire guards and police participated in an exercise. One of the state-owned principal first aid stations was moved from Jim Thorpe to Palmerton for this exercise. In compliance with state directives, boxes were not opened.

Another extensive Carbon County exercise was held at Summit Hill where numerous theoretical incidents were solved. A state-owned rescue truck was requested and granted for participation in this exercise. Amplifiers and loud speakers were set up in Summit Hill to carry messages to the general public.

Communications facilities at Summit Hill included carrier pigeons and the use of these birds in relaying emergency messages was described as highly successful.

Despite heavy rains C. Abram Snyder, Lancaster County Civil Defense Director, said he was "very well pleased" with the results of Operation Alert there. The public participation test there was highly satisfactory. The Engineering-Rescue Division of Lancaster County conducted an exercise in the rain near McCaskey High School. There an unused shack was "detonated" and the Division was mobilized to cope with the disaster.

An amusing story was told in Lancaster of a well-meaning Civil Defense worker who "foiled" the efforts of the 52nd Ordnance Detachment. The Detachment had planted a "bomb" on the street but found it gone when they came to de-fuse it. It seems that a Civil Defense worker had picked it up and carried it away because "it had a jagged edge and he didn't want somebody to cut his automobile tire."

Paul Crown, Executive Director of Monroe County, reported:

"It was agreed that no successful test would receive the desired response from the public unless an extended and carefully planned program of press relations was devised. This phase of the preparations received careful attention. Our writers and photographers spent weeks in carefully working out the details of press relations that were necessary to bring home to the public the importance of full participation in

this exercise. Daily the local newspaper, the Stroudsburg Daily Record, carried feature articles with a local or state angle in connection with the test and inserted stimulating editorials that gained wide attention. The local radio station WVPO did more than its full share in preparing the public for the test. In this department we could not have had finer cooperation.

"The set-up at the County Control Center located on the first floor of the Court House, was designed to fully simulate actual disaster conditions such as confronted our county organization during the flood of August 1955.

"This meant that a full complement of telephone and radio operators were necessary to simulate work round the clock. Members of these divisions, which are ever on the alert and well trained, were a decisive element in the success of the test. These workers responded eagerly, handled an unprecedented number of calls to the various sections of our county and to Eastern Area Civil Defense Headquarters in Quakertown, and generally made a most important contribution to the success of this test.

"It was thoroughly emphasized that all divisional heads were to be present to help in working out theoretical problems occasioned by the heavy bombing of such nearby cities as Allentown, Easton, Bethlehem, Reading, Philadelphia and Wilkes-Barre. A full complement responded and remained on duty until the exercise closed down. These heads of divisions handled problems that affected neighboring counties and the entire Eastern Area and in addition set up local problems that were carried down in every case to the sector and township organizations for solution. This part of our program proved very effective.

"The Women's Auxiliary of the Veterans of Foreign Wars, a unit that distinguished itself during our critical flood disaster of 1955, again mobilized their facilities and personnel and were on constant duty during the July 20th test, serving delicious food and hot coffee to the many people who were unable to leave headquarters for their accustomed meals. Here again full simulation of the 1955 flood activation took place. To all of the seasoned veterans of the flood, this exercise was a very vivid and most poignant reminder of what took place a year ago and what could easily happen again. Almost one hundred workers participated in the County Control Center Headquarters

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COMMONWEALTH OF PENNSYLVANIA STATE COUNCIL OF CIVIL DEFENSE

HON. GEORGE M. LEADER, GOVERNOR
HON. H. G. ANDREWS, *Acting Chairman*
Speaker of the House of Representatives
HON. ROY E. FURMAN
Lieutenant-Governor
MAJ. GEN. A. J. D. BIDDLE, JR.
Adjutant General
HON. CHARLES R. BARBER
Auditor General
HON. GENEVIEVE BLATT
Secretary of Internal Affairs
HON. M. HARVEY TAYLOR
President Pro Tempore of the Senate
HON. JOHN H. DENT
Minority Leader of the Senate
HON. CHARLES C. SMITH
Minority Leader of the House of Representatives
HON. MAURICE K. GODDARD
Secretary of Forests and Waters
HON. JOSEPH J. LAWLOR
Secretary of Highways
HON. BERWYN F. MATTISON
Secretary of Health
COL. EARL J. HENRY
Commissioner, Pennsylvania State Police
HON. HARRY SHAPIRO
Secretary of Welfare

* * *

DR. RICHARD GERSTELL, *Director*

Free subscriptions to this publication may be obtained by contacting your local civil defense director. Local civil defense directors write to: State Council of Civil Defense, Quakertown, Penna.



(Photo by Tom Lynam)

Mrs. Dorothy Weller, Warden, Zone 4, Altoona, distributing some of 40,000 copies of the "Home Protection Exercises" booklet. (See article below.)

Natural Disaster Course

A NEW five-day course on Civil Defense in Natural Disasters will be held November 5-9, 1956 at the FCDA Facility, Olney, Maryland by the FCDA Staff College. The course, developed in cooperation with the Natural Disaster Office, is designed for State and local civil defense officials with the aim of improving operations under Public Law 875, the Major Disaster Act.

The course will present information on disasters such as floods, tornadoes, hurricanes, blizzards, droughts, earthquakes, tidal waves and fires, with emphasis upon warning and type of damage and casualty. Selected State and local civil defense plans to meet natural disasters will be reviewed. There will be sessions on disaster communications and information programs, psychological reactions to disasters, damage assessment, and relationships between the American National Red Cross and civil defense organizations in natural disasters. Extended sessions will be held on the Public Law 875 project application process and upon the resources of federal agencies which may be brought to bear on a major disaster situation. The course will include exercises and practice periods on problems of disaster organization and project formation.

The FCDA Facility at Olney is located twenty miles north of downtown Washington, D. C. Room and board are available to students at the

Facility at \$5.00 per day. There is no charge for the course. For additional information write to your State Civil Defense Office.

Keeping Wardens Busy

ONE of the headaches proposed to State Council of Civil Defense personnel many times is "How do we keep Wardens busy after we enlist them?"

An outstanding example of efficient use of the warden service was in Altoona where recently the warden service distributed 40,000 copies of the Home Protection Exercises booklet to its citizens.

These booklets were provided by the Federal Civil Defense Administration through the State Council of Civil Defense. Until recently the booklet was quite bulky but now is available in a small "tabloid" (Revised Edition June 1956). The role of the warden in pre-attack education has been recognized by Civil Defense authorities.

G.O.C. PUBLICIZED

A FULL PAGE ad in the Tyrone Daily Herald was contributed by the West Virginia Pulp and Paper Company's Tyrone Mill, on the occasion of the award presentation ceremonies of the Tyrone Ground Observer Corps.

A commendable feature of this ad was the naming of all volunteers who were presented with Wings and Certificates for meritorious services.

Welfare Staff College

A DELEGATION of Pennsylvanians led by Mrs. Gweneth Zarfoss, State Emergency Welfare Coordinator, attended the August Federal Civil Defense Administration Staff College Welfare Course at Battle Creek.

Three county welfare chiefs attended. These were Mrs. Jean B. Githens, Westmoreland; Mrs. Joan Miller, Montgomery, and Mrs. Adair Knox, York.

Also attending were Charles Bechtel, Sr. of the Salvation Army, Philadelphia, and Harry Rinder, Executive Director, and William P. McKinley, Assistant Director of Safety Services and Disaster, Erie Red Cross.

The center of operations during this course was the Michigan Education Camp at St. Mary's Lake, where a welfare field problem was held.

IN NEXT ISSUE

A FEATURE of the October, 1956 issue of *The Keystone Defender* will be the latest report on atomic weapons matters for Commonwealth civil defense directors. This report will be extracted from the Twentieth Semiannual Report of the Atomic Energy Commission.

Correspondence for THE KEYSTONE DEFENDER should be addressed to Quakertown, Pennsylvania.

First among our pitfalls and dangers, I would place, of course, the Communist threat. As far as I can see, there has not been any reduction in the magnitude of the Communist military capabilities; there has only been an increase.

Today, however, rather than outright aggression, the Communists are employing against free nations the more flexible tactics of cultural, economic, diplomatic, and technical assistance. The danger to us is not lessened by their use of these devices. In fact, the danger may be even greater since the threat is not so readily apparent.

A second danger which we must constantly guard against is our tendency to be complacent. In a sense, complacency is the most insidious weakness a nation can have. It is the belief that we can do everything better than anyone else.

To those who would subscribe to this, I would cite the recent Soviet advances in the development of modern long-range bombers, submarines, jet engines, and nuclear weapons. Any conclusions based on the premise that the Soviet scientists and engineers are not as well qualified as ours will just not hold water. As I see it, there are no rational grounds to presuppose that American defense technology is invincible.

—Adm. Arthur W. Radford.

THE EFFECTIVE USE OF RED CROSS

By ELLSWORTH BUNKER (President, American National Red Cross)

THE CLOSE cooperation between Red Cross, civil defense, and other agencies that was so effective in the Eastern States floods is becoming a national pattern.

Governor Peterson and I are striving constantly for further development of cooperation through conferences and training of our respective staffs. And through joint training and studies, we are showing remarkable progress in making cooperation and mutual aid effective at State and local levels.

This pattern of cooperation in natural disaster relief, we feel, has important implications to the major responsibility of FCDA in preparing the country against the effects of external attack.

Red Cross recognizes the enormous responsibility that has been placed upon Governor Peterson. But in the last analysis, the effectiveness of civil defense depends to a large degree upon what we, the American people, do to make it effective. The ability of a city or State to rally after enemy attack depends upon preparedness just as much as the ability to rally after natural disaster.

The seeds of quick recovery are planted before the emergency by far-seeing community leadership.

There are striking analogies between the resources needed in disaster relief and those that would be needed in time of enemy attack; evacuation and rescue teams, medical supplies, nurses and nurses' aides, emergency food supplies and sheltering facilities, clothing, and, above all, people trained in first aid, in home nursing and in mass care and feeding. All these would be needed in vast numbers in a national emergency. The time to prepare them is now.

I have assured Governor Peterson that the Red Cross, as an organized and trained community force, will make every effort to assist civil defense authorities in fields where it has special competence. And I have urged all Red Cross chapters to work with local civil defense officials and offer them the full resources of the chapter wherever these can be applied for the strengthening of the total civil defense effort.

I believe that civil defense will find this organized and articulate community group an added resource for the great effort that must be made to inform and alert the public.

In addition, Red Cross training programs have been revised to make their full contribution to civil defense. We

have revised the first aid course, we have been promoting home nursing, we are developing a course in mass feeding which will be available to all community groups whether or not they wish to serve through the Red Cross chapter. We are studying the possibility of developing a training course for medical auxiliary workers.

We will continue to organize and train large numbers of volunteers to assist in providing food, clothing, and shelter for those who might be evacuated from their homes in a war emergency.

Perhaps the greatest single contribution Red Cross can make to civil defense is in the procurement of blood. The permanent network of 47 Red Cross regional blood centers provides a nucleus that could be expanded in time of emergency as we expanded it during the Korean hostilities when we added 15 special defense centers to the existing network and contracted with other community blood collecting facilities to provide blood for national defense. We are now studying with civil defense ways to make such expansion rapid and extensive.

In the event of attack, certain cities of America would be primary targets, and it is unlikely that all would simultaneously receive a devastating blow. For this reason Red Cross emphasizes mutual aid between chapters just as civil defense emphasizes mutual aid between regions and States and communities.

The assistance and support that Red Cross has pledged to civil defense is equally available to the mayors of the Nation through Red Cross chapters. In both natural disaster and national emergency we stand ready to contribute our resources to the common good. But once again I emphasize that the time to plan—to prepare—is now.

Planning for effective use of Red Cross in local civil defense would be greatly aided if each mayor would appoint a Red Cross representative to his local civil defense unit. This would assure that each Red Cross chapter came into full operation in the local civil defense program.

I am certain all of you have as little patience as I have with the school of thought that says: Attack in this modern age would be so overwhelming—so devastating, there is nothing we can do about it. This is as if someone advised you that a fire breaking out simultaneously all over your city could not be controlled—so let's do without

the fire department.

This nation of ours is a vast community of almost limitless strength and resources. By working together we can control our destiny.

Red Cross offers its full support to all who work to safeguard our communities and to safeguard that greater community that is the United States of America.

Rural Civil Defense

(A List of Missions)

RURAL CIVIL DEFENSE includes five major missions for non-urban communities, any or all of which may be considered as "primary" in a given situation. These are:

Self-help. Rural communities, and individuals in them, should be prepared to take care of themselves against the actual hazards they face, including protection of themselves and their stock against effects of radioactive fallout.

Continuity of Production. Considering losses we may expect in food stocks in cities, at times of nuclear attack, it is important that farms stay in production at such times. After attack, there may be serious food losses from fallout in many rural counties, which emphasizes even further the importance of this action, in those areas which are not damaged.

Capability to Move Food to Points of Need. The ordinary means of transport for farm produce probably will not be available immediately after attack. At that same time, farm produce, and perishables especially, will be vitally needed for feeding survivors. It must be a responsibility of producers to move their produce to points of need. This also emphasizes the importance of developing processing facilities—existing and improvised—in rural communities.

Taking in Refugees and Evacuees. People surviving nuclear attack, or people evacuated prior to such attack, will need to be housed, fed and looked after. This will in many cases require the help of rural communities and individual farms.

Furnishing Some Kinds of Mobile Support. When the other primary responsibilities have been met, there may still be the need for help to stricken metropolitan areas by services such as volunteer or rural fire departments, road districts (equipment and operators), feeding teams, and the like.

ON HURRICANE WARNINGS

THE WEATHER BUREAU is responsible for issuing warnings of hurricanes which approach the U. S. Mainland.

As soon as there are definite indications that a hurricane is forming, even though it is a thousand miles or more from the mainland, the storm is given a name and the Weather Bureau begins issuing "advisories." The advisories are issued frequently throughout the day and night and tell where the storm is, how intense it is, and its speed and direction of movement.

If the hurricane moves toward the mainland, hurricane "watch" notices are included in the advisories and storm and hurricane warnings are issued. In addition, "bulletins" for press, radio and television are issued at frequent intervals to keep the public informed of the progress of the storm. The "hurricane watch" does not constitute a warning that the hurricane conditions are imminent, rather it indicates that the hurricane is close enough that every one in the area covered by the "watch" should listen for further advisories and be ready to take precautionary action in case warnings are issued.

As soon as the forecaster determines that a particular section of the coast will feel the full effects of a hurricane, he issues a "hurricane warning." Hurricane warnings specify coastal areas where winds of 75 mph or higher, or dangerous high tides or very rough seas are expected. When the warning is issued all precautions should be taken immediately against the full force of the storm. "Hurricane warnings" are seldom issued more than 12-18 hours in advance and sometimes, in case of unusual or erratic hurricane movement, they may be issued only a few hours in advance of the onset of

hurricane conditions. It is therefore of utmost importance that precautionary actions be instituted immediately when a "hurricane warning" is announced.

Issuance of "hurricane warnings" does NOT mean that the center of the hurricane is always expected to pass inland over the area warned. Rather, the warnings indicate that winds of hurricane force are expected within the area of hurricane warning. Usually the winds gradually increase in velocity as the center approaches and may reach hurricane force as much as 6 hours or more before the center crosses the coast. Since dangerous winds may extend outward a considerable distance from the center of the storm, the area of danger is usually several times greater than that covered by the center itself. In some cases the center may "skirt" the coast and result in hurricane winds with the center never crossing the coast.

Storm warnings, on the other hand, are warnings for coastal areas indicating that winds of more than 32 mph, but of less than hurricane force, will occur. They are issued not only in connection with hurricanes but with other types of coastal storms. There are several circumstances under which they may be issued in connection with hurricanes. If a hurricane approaches close enough to cause strong winds but not close enough to cause hurricane conditions, "storm warnings" may be issued. Should the hurricane continue moving toward the coast, the "storm warnings" may be changed to "hurricane warnings," and "storm warnings" may be issued for other areas on either side of the expected hurricane path—areas close enough to get the full effect of the hurricane.

SOVIET ATOMIC TESTS

THE SOVIET UNION has resumed its testing of nuclear weapons, and on August 24, 1956 detonated a nuclear device with a yield of less than a megaton at the usual Soviet proving ground. This proving ground, where most of the Soviet tests have occurred, is located in Southwest Siberia, north of India, Afghanistan and Pakistan, and west of China. In addition to this area, the Soviets have also utilized the area of the Barents Sea for nuclear testing.

This is the 13th announcement of the United States concerning nuclear weapons tests by the USSR.

The Soviet Union has never given the world any assurances with respect to the way in which it conducts nuclear weapons tests and has, in fact, never made an advance announcement of any of its detonations or test series. Only three times has the Soviet made any statements about its weapons tests, and then has but briefly acknowledged that a test has taken place. Two of these three statements have followed the U. S. announcements.

The secrecy of the Soviet weapons test program, which has been most actively pursued for the past seven years, contrasts with the responsible public information policy of our Government with respect to the U. S. test program. All test programs by our country have been announced well in advance and public information has been made available about them to the fullest extent consistent with security. Two detonations of the recent test series at Eniwetok were witnessed by representatives of the U. S. press, radio and television so that they could report to the world regarding the way in which U. S. tests are carried on. Representatives of U. S. and foreign news media also have witnessed "open shots" of weapons tests at the Nevada Proving Ground.

At first-hand to these newsmen and to the public in general by this and many other means, this Government has supplied detailed information about the conduct of the U. S. tests—information about the careful scheduling of detonations at optimum times for the safest weather conditions, the limiting of test activities to a specified warning area, the continuous surveillance of this area to protect shipping, and the performance of frequent radiological surveys of the surrounding areas.

The recently concluded series at Eniwetok, which began in May, 1956, was announced on January 12, 1956. The

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WELCOME, NEW DIRECTORS!

WESTERN AREA

Mr. Eugene McKelvey, 1028 Highland Ave., Ambridge, Pa.; Mr. John E. Beck, 744 Liberty St., Clarion, Pa.; Mr. Arthur Sager, Tionesta, Pa.; Mr. George Walters, Nemacolin, Pa.; Mr. John S. Graham, R. D. 5, Washington, Pa.; Mr. C. Glenn Jaquette, 1027 W. Main St., Mount Pleasant, Pa.; Mr. Edward Cearfoss, Jr., Fourth Ave., Koppel, Pa.; Mr. Jesse T. Stricklin, Perryopolis, Pa.; Mr. John E. Thomas, 600 S. Grant St., Scottdale, Pa.; Mr. John Veloshen, Perryopolis, Pa.

CENTRAL AREA

Mr. Glenn W. Brumbaugh, 2513 S. Third St., Steelton, Pa.; Rev. Donald Sease, 910 Pine St., Philipsburg, Pa.;

Col. W. R. Young, 255 E. Hamilton Ave., State College, Pa.; Mr. Milton C. Benson, 131 Roosevelt Ave., Middletown, Pa.; Mr. Christian L. Hoover, Penn St., Royalton, Pa.

EASTERN AREA

Mr. Harold W. Billig, 450 E. Center St., Nesquehoning, Pa.; Mr. William H. Dunlevy, Jr., Edgeboro Drive and Creamery Road, Newtown, Pa.; Mr. Howard M. Nichols, Jr., 1106 Paoli Pike, West Chester, Pa.; Mr. Douglas Hulse, Mill Rift, Pa.; Mr. Oswald Lombardi, Lake Ariel, Pa.; Miss Rose Fritz, R. D. 3, Honesdale, Pa.; Mr. Charles E. Shank, Malvern, Pa.; Mr. Robert J. Donnelly, Jr., 7535 Rogers Ave., Upper Darby, Pa.



Girls in the homemaking department at Bellefonte Joint High School are busy working on their exhibit for Grange Fair. Entitled "Grandma's Pantry—1956" it features an emergency food supply for a family in case of disaster. Shown in the picture are Dolores Walker of Pleasant Gap and Janet Tibbins of Bellefonte.

THE RADIATION PROBLEM

(Based on a Report to the Public by the National Academy of Sciences—National Research Council)

WHEREVER one goes over the surface of the earth, there is always a small amount of radiation, more in some places than in others. It is called "background" radiation. It comes from two sources. One is the naturally radioactive substances—uranium, radium and so on—that are found in rocks and the soil. Of course, the percentage of radioactive deposits varies widely from place to place. The other is cosmic radiation. Cosmic rays are absorbed as they pass downward through the atmosphere, so that background radiation from this source is greater the higher one goes.

There are naturally-occurring radioactive atoms within living plants and animals, as well as in the earth. Thus every living thing is exposed to its own radiation as well as that from the external background.

Over and above the background, there are the various forms of man-made radiation to reckon with. At this point, in industrially advanced countries, by far the most important are medical and dental Xrays. The average U. S. citizen now receives roughly the same amount of radiation, over his whole body, from Xray and fluoroscopic examination as from the natural background.

Another source of radiation—a

minor source so far—is "fall-out" from atomic explosions. Every bomb or "device" that is set off throws into the air a huge cloud of radioactive particles, some of which are carried great distances by the winds of the upper air, and settle out gradually over the whole earth.

At the present time, atomic reactors are not a factor in the general radiation picture. But when large numbers of nuclear power plants are in operation, the output of radioactive fission products will be enormous. The ingenuity and care used in the management and release of these wastes will determine how much of their radiation passes into the general environment.

Fall-out from explosions can be divided into three types: close-in—material that returns to the earth within a few hundred miles of the site of the explosion and within two to 20 hours after it has occurred; intermediate—material that comes down in the first few weeks after an explosion; delayed—material that stays in the air for months or years before reaching the ground.

Close-in fall-out is made up of heavier particles in the explosive debris, and is brought down chiefly by gravity. To figure out where it will land, it is necessary to know the type

of explosion and to predict the wind patterns in the vicinity for the next 10 to 20 hours. Such predictions are, to put it mildly, not infallible; but, with the help of modern computing aids, they are getting better.

Intermediate fall-out consists chiefly of particles so small that they would take a very long time to settle out by gravity. They remain in the lower atmosphere for several weeks and are carried many thousands of miles from the point where they originated. It has been discovered that, in the main, they do not simply settle out of the air but are washed out by rain or snow. This means that the material does not come down in a uniform, predictable pattern, but is concentrated in areas where there is precipitation. Hence, under some circumstances a rather limited region might get a disproportionately high share of the intermediate fall-out from an explosion. Following a single Nevada explosion the cities of Albany and Troy in New York received one-tenth of a roentgen of fall-out, or one per cent of the 10 roentgens which the genetics panel has recommended as a maximum for the general population. It is unlikely, of course, that a single region would be so unlucky more than once.

Delayed fall-out is made up of very fine particles that are blown into the stratosphere (higher than 40,000 feet). From the standpoint of its possible effect on humans, the important ingredient of delayed fall-out is strontium 90. The stuff stays in the upper air so long that it is eventually carried over every part of the globe. How long it actually is stored in the stratosphere, and how it returns to the lower atmospheres and thence to the ground is still largely unknown. In fact, the general problem of mixing between upper and lower air layers and of diffusion of material throughout the atmosphere are major questions of meteorology today. This is another of the numerous instances where the answer to radiation questions awaits the solution of more basic scientific problems. It is also true that tracing the course of the radioactive material may be of considerable help in finding the basic solution.

Atmospheric motions are not the only unknown factors in determining fall-out. A good deal is yet to be learned about the anatomy of the explosions—the heights to which various radioactive species are carried, the varying effects of exploding on the ground or at different heights above it, and so on. Also, there is need for improvement in the method of measuring worldwide fall-out.

FIRST AID AND HOME NURSING

(From Page 1)

their brothers? If the care of civilian and military patients comes to a serious impasse for lack of trained nurses, would it be irrational or unjust to draft some of our 1,085,000 girls at 17½ years of age to meet the emergency? Is a period of service as a nurse in civilian or military hospitals any more of a sacrifice than 24 months of military service for a young man—or a young doctor? Is a girl's training as a nurse any less useful in later life than a young man's knowledge of how to operate a machine gun? I can assure you, and the medical profession as well, that the people will have medical care somehow, and it behooves you not only to brood on that fact, but as a profession to explore every way to collaborate with and meet that demand."

Samuel Johnson has said "Nothing will ever be attempted if all possible objections must first be overcome."

We need integrated medical leadership, decision, planning, and practice at the county level if we are to win this race between education and catastrophe.

Dr. Harold Leuth, at a recent ANA Convention, emphasized the need of health professional persons to plan how to provide the best possible medical care for the greatest number of victims, and not to be concerned with the extent of physical or enemy damage. He stated that every nurse must be ready to give general duty care; nurse-teacher must include disaster care in curricula; hospitals must accept responsibility in providing emergency care by training professional, administrative and supportive staffs; and every community must enlist the aid of all local professional groups to review and teach the lessons of emergency medical care.

In the pre-disaster period physicians and nurses should be prepared to assist in teaching First Aid and Home Nursing Courses that of necessity must be given at the local levels.

Of timely interest is Pennsylvania's Assembly Act No. 478 approved by Governor Leader on April 12, 1956 which amends Public Law 80 of March 10, 1949 as follows:

During one or more of the last four years of any complete high school program there may be included a course of study in first aid or home nursing or both for the purpose of training and increasing the available supply of trained personnel for use in any program or activity undertaken

Eskimo GOC Volunteers

Fifteen Eskimos of the Alaska National Guard staff the Westernmost Ground Observer Corps Post for the United States Air Force.

Location of the Post is on Little Diomed Island in the Aleutians. The Eskimos are training in operation of high frequency radio transmitters for use in transmitting reports of planes.

Atomic Casualties Course

THE Medical Coordinator of Civil Defense, Dr. Arthur B. Welsh, by invitation, presented the "Medical Civil Defense Program in the State of Pennsylvania" as a part of the "Medical Care of Atomic Casualties" course conducted June 25-30, 1956, by Walter Reed Army Medical Center, Washington, D. C.

The above one-week course in the handling of all types of casualties under disaster conditions is given periodically at that installation. The course is the most comprehensive and impressive presentation of emergency casualty care that is offered anywhere and is highly informative to those fortunate enough to attend, according to reports.

Future courses have been scheduled for October 29 to November 3, 1956, and February 4 to 9 and June 17-22, 1957. Any doctor, dentist, veterinarian, or nurse interested should write to the Health Services Division, FCDA, Battle Creek, Michigan, promptly. There is no fee for the course.

Dr. Welsh urged, "State and County associations should arrange for their civil defense representative to attend one of these courses and underwrite the necessary expense for him to enroll. Such action would greatly implement the disaster training program in Pennsylvania."

pursuant to the act of March 19, 1951 (PL28) known as the "State Council of Civil Defense Act of 1951" as amended. The Superintendent of Public Instruction shall direct a course of study to be prepared to assist school districts in complying with the provisions of this section.

County medical societies should take an active local interest in this program as it is the most important single step that the Commonwealth could have taken in furthering pre-attack training preparedness for a civil defense emergency.

(For further information on the Civil Defense medical program, it is suggested that reference be made to November 1955 issue of THE KEYSTONE DEFENDER.)

SOVIET ATOMIC TESTS

(From Page 5)

location and exact boundaries of the warning area were announced April 20. Conclusion of the series was stated July 23 and the end of need for the warning area announced on August 11.

The United States regards the safety and public health measures that it takes as an essential to properly conducted nuclear tests.

The record of U. S. announcements gives clear evidence that the Soviet's nuclear weapons testing activity has been on a steadily increasing scale since 1949. Such announcements, prior to today's, were as follows:

- 1949: September 23
- 1951: October 3
October 22
- 1953: August 20
August 31 (one of a series of explosions)
- 1954: October 26 (one of a series of explosions)
- 1955: August 4
September 24 (one of a series of explosions)
November 10 (one of a series of explosions)
November 23
- 1956: March 21
April 2 (one of a series of explosions)

Although there have been but 13 announcements by the U. S. regarding Soviet testing, several have noted a series of detonations and the actual number of Soviet detonations is significantly higher than 13. As indicated in several of the U. S. announcements, this country does not disclose all of the USSR shots of which it has knowledge, but limits itself to statements about explosions of special interest because of their large size, their series character, or some other unusual fact. For example, the U. S. stated on November 23, 1955, that the explosion then announced was, "the largest thus far in the USSR, and was in the range of megatons." This was later confirmed by Mr. Khrushchev, when he stated in Bangalore, India, that this Soviet explosion was of "unprecedented might."

Area Defense Week Meetings

ACTIVITIES for National Civil Defense Week were discussed at meetings held in late August in each of the Commonwealth's three operational areas. Bill Bailey, Public Affairs Officer of Region II, Federal Civil Defense Administration, was in charge. The meetings were held at Franklin and Greensburg (Western Area); Lewistown and Williamsport (Central Area), and Scranton and Norristown (Eastern Area).

More "Operation Alert"

(From Page 2)

activation.

"All CD Control Centers throughout the county were advised to test their warning devices prior to Operation Alert, so that everything was in good working order when the actual alert sounded. The public response was all that could be desired. Streets were entirely cleared and all traffic was at a stand-still during the required time.

"Judge Fred W. Davis, director of Monroe County Civil Defense, together with photographer Roderick MacLeod, from the Daily Record newspaper, were aloft in a plane during the actual public participation phase of the alert. Their report attested to all ground reports as to the actual stoppage of traffic and unexcelled public reaction.

"The cooperation of manufacturing and business interests, as well as all federal and state organizations, to Operation Alert 1956, in Monroe County was indeed outstanding.

"Business organizations and manufacturing concerns released personnel for participation in the alert without curtailment of salary or jeopardy to position. We could not expect finer cooperation than was accorded in this respect.

"Other local, federal, and state organizations took an active interest in the test exercise and participated fully in a remarkable way. Particularly notable in this respect were the veterans organizations of the Stroudsburg, Bell Telephone, the U.S. Postal Department, and the Pennsylvania Employment Service, the latter an organization that has in every way and at all times afforded local Civil Defense the finest kind of assistance."

A comprehensive report on Operation Alert 1956 was issued by the Philadelphia Civil Defense Council, Philip Klein, Executive Director. Generally, the Philadelphia public alert and exercise was successful. Excerpts from the Philadelphia report follow:

In response to the sirens signalling "Operation Alert 1956", 11,000 children and teachers in 118 public school playgrounds participated in retention drills. It was significant that had the bombing been actual, mass care accommodations remaining in Philadelphia would have sheltered only 7,850 persons, with the burden thus falling obviously on surrounding territory. One Philadelphia school actually activated its mass care center during the exercise.

Communications Division of Philadelphia reported handling a total of 793 messages. One radio broadcasting facility in the city was "destroyed". Existing radio links to transmitters of

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important Philadelphia stations were utilized to continue broadcasting direct from the Philadelphia main control center.

Philadelphia has four operating regions and each of these used a system for appraising test results known as a "District Observation Questionnaire."

Generally, Civil Defense officials and the general public felt that Operation Alert 1956 was worthwhile and well handled. There were some complaints of inadequate siren coverage in some sections.

The Conelrad Exercise in the Philadelphia area was classified as "highly successful."

Special Civil Defense Edition of "The Fifteen Nations"

THE FIFTEEN NATIONS, a publication dedicated to the many objectives of the North Atlantic Treaty Organization, announced, recently, that the December 1956 issue will deal with the problems of Civil Defense.

In a brochure announcing the edition it was stated that countries, from which Civil Defense material would come, included Norway, Denmark, Holland, Belgium, Luxembourg, France, United Kingdom, Italy, Portugal, Greece, Turkey, West Germany, Canada, Iceland and the United States.

Proposed articles would cover such subjects as "NATO and Civil Defense," "Women in Civil Defense," "Early Warning Systems Both in Europe and the United States," "Science in Civil Defense," "Medical Problems," and "Civil Defense Training Schools."

Copies of *The Fifteen Nations* sell at \$1.00 and the address is 47, de Lairesestraat, Amsterdam (The Netherlands).

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FCDA Makes Important Changes in Survival

AN IMPORTANT "redirection" in the nation-wide Federal Civil Defense Administration's Survival Plan Program was announced in mid-August. All county civil defense directors were promptly advised in a memorandum sent from the office of Dr. Richard Gerstell, State Civil Defense Director.

According to Dr. Gerstell, it now appears that the "redirection" mentioned will have the following effects on Pennsylvania programs:

First, the Southeastern Pennsylvania-Southern New Jersey-Delaware Project, already well underway, will have to be "rewritten and redirected" along lines not announced at this writing (August 29th).

Second, the recently-submitted Proposal and Agreement which was to cover the Upper Ohio River Basin Area will in all probability be disapproved by FCDA and a new proposal offered.

Thirdly, and most important for the majority of county and local civil defense directors, plans for other projects in the Commonwealth will have to be revised completely. It is not known when definite Survival Plans for the future will be announced by the Federal Civil Defense Administration.

Sharon Area Windstorm

CIVIL DEFENSE personnel were called into duty on August 20th following a severe windstorm which ripped through the Shenango Valley near Sharon.

Civil defense workers were cited for clean-up work done in the Greenville, Sharon, Farrell and Sharpsville.

Two persons died and 50 were injured in the storm. Official report was made to State officials by Ross I. Webb, Western Area Director.